

WHAT IS CLAIMED IS:

1. A nonaqueous electrolyte secondary battery comprising:

a positive electrode;

5 a negative electrode containing a negative electrode active material including carbonaceous particles and a Si phase dispersed in the carbonaceous particles; and

a nonaqueous electrolyte;

10 wherein the negative electrode active material is 1.5° or more and 8° or less in a half width of a diffraction peak derived from (220) plane of silicon in powder X-ray diffraction, and

an average size of the Si phase is less than

15 100 nm.

2. The nonaqueous electrolyte secondary battery according to claim 1, wherein the average size of the Si phase is 1 nm or more and less than 100 nm.

20 3. The nonaqueous electrolyte secondary battery according to claim 1, wherein the average size of the Si phase is 2 nm or more and 50 nm or less.

4. The nonaqueous electrolyte secondary battery according to claim 1, wherein the half width is 2° or more and 6° or less.

25 5. The nonaqueous electrolyte secondary battery according to claim 1, wherein the carbonaceous particles satisfy the following formula (1):

$$0.2 \leq (X_1/X_2) \leq 2 \quad (1)$$

where the X_1 is a molar number of a silicon atom in the carbonaceous particles, and the X_2 is a molar number of a carbon atom in the carbonaceous particles.

5 6. The nonaqueous electrolyte secondary battery according to claim 1, wherein an average particle size of the carbonaceous particles is 5 μm or more and 100 μm or less.

10 7. The nonaqueous electrolyte secondary battery according to claim 1, wherein the carbonaceous particles further contain a silicon oxide phase.

8. The nonaqueous electrolyte secondary battery according to claim 7, wherein the silicon oxide phase contains at least one compound of SiO_2 and SiO .

15 9. The nonaqueous electrolyte secondary battery according to claim 7, wherein at least part of the silicon oxide phase is in contact with the Si phase.

10 10. The nonaqueous electrolyte secondary battery according to claim 7, wherein the carbonaceous particles satisfy the following formula (2):

$$0.6 \leq (X_1/X_3) \leq 1.5 \quad (2)$$

where the X_1 is a molar number of a silicon atom of the Si phase, and the X_3 is a molar number of a silicon oxide molecule of the silicon oxide phase.

25 11. A negative electrode active material for nonaqueous electrolyte secondary battery, including carbonaceous particles and a Si phase dispersed in the

carbonaceous particles,

wherein a half width of a diffraction peak of
(220) plane in powder X-ray diffraction is 1.5° or more
and 8° or less, and

5 an average size of the Si phase is less than
100 nm.

12. The negative electrode active material for
nonaqueous electrolyte secondary battery, according to
claim 11, wherein the average size of the Si phase is
10 1 nm or more and less than 100 nm.

13. The negative electrode active material for
nonaqueous electrolyte secondary battery, according to
claim 11, wherein the half width is 2° or more and 6° or
less.

15 14. The negative electrode active material for
nonaqueous electrolyte secondary battery, according to
claim 11, wherein an average particle size of the
carbonaceous particles is 5 μm or more and 100 μm or
less.

20 15. The negative electrode active material for
nonaqueous electrolyte secondary battery, according to
claim 11, wherein the carbonaceous particles further
contain a silicon oxide phase.

25 16. The negative electrode active material for
nonaqueous electrolyte secondary battery, according to
claim 15, wherein the silicon oxide phase contains at
least one compound of SiO_2 and SiO .

17. The negative electrode active material for nonaqueous electrolyte secondary battery, according to claim 15, wherein at least part of the silicon oxide phase is in contact with the Si phase.